

**STATE OF NEW JERSEY
OFFICE OF ADMINISTRATIVE LAW
BEFORE HONORABLE IRENE JONES, ALJ**

| | | |
|--|---|---------------------------------------|
| I/M/O the Verified Petition of Rockland |) | |
| Electric Company For Approval of |) | |
| Changes in Electric Rates, Its Tariff For |) | OAL Docket No. PUC 17625-2013N |
| Electric Service, And Its Depreciation |) | |
| Rates, Termination of the Smart Grid |) | BPU Docket No. ER13111135 |
| Surcharge; Establishment of a Storm |) | |
| Hardening Surcharge; and For Other |) | |
| Relief |) | |
| |) | |

**DIRECT TESTIMONY OF CHARLES P. SALAMONE
ON BEHALF OF THE
DIVISION OF RATE COUNSEL**

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Dated: May 9, 2013

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1 **I. STATEMENT OF QUALIFICATIONS**

2 **Q. Please state your name and business address.**

3 **A.** My name is Charles P. Salamone. I am Owner of Cape Power Systems
4 Consulting, LLC a power systems consulting Company with an address of 23
5 Westerly Drive, Bourne, Massachusetts and I am subcontracting with Synapse
6 Energy Economics, Inc. with an address of 485 Massachusetts Avenue,
7 Cambridge, Massachusetts.

8 **Q. On whose behalf are you submitting testimony in this proceeding?**

9 **A.** I am submitting testimony on behalf of Division of Rate Counsel.

10 **Q. Please describe your education and professional background.**

11 **A.** I hold a Bachelor of Science Degree in Electrical Engineering from Gannon
12 University. I joined the Engineering Department of Commonwealth Electric
13 Company in 1973. At that time, I became a Junior Planning Engineer where my
14 primary responsibilities were to assist in the planning, analysis and design of the
15 transmission and distribution systems of Commonwealth Electric Company, later
16 known as NSTAR. I generally followed the normal progression of positions with
17 increasing levels of responsibility within the planning area until taking the
18 position of Director of System Planning at NSTAR in 2000. I held that position
19 until starting Cape Power Systems Consulting, LLC in 2005. During my career
20 with NSTAR in addition to the responsibilities associated with overseeing System
21 Planning I had served as Chair of the New England Power Pool (NEPOOL)
22 Planning Policy Subcommittee (1997-1998), Chair of the NEPOOL Regional
23 Transmission Planning Committee (1998-1999) and Vice Chair of the NEPOOL

1 Reliability Committee (1999-2000). As a consultant I have been providing
2 consulting services to a number of power system industry clients since 2005. I
3 am a Registered Professional Engineer with the Commonwealth of Massachusetts.
4 I am also a member of the Power Engineering Society of the Institute of Electrical
5 and Electronic Engineers. A copy of my resume is attached hereto as Schedule
6 CPS- 3.

7

8 **Q. Have you previously testified before utility regulatory agencies?**

9 **A.** Yes. I have previously testified before the New Jersey Board of Public Utilities,
10 the Federal Energy Regulatory Commission, the Massachusetts Department of
11 Public Utilities and the Massachusetts Energy Facilities Siting Board on a number
12 of technical matters relating to ratemaking and system planning.

13

14 **II. PURPOSE AND SUMMARY OF TESTIMONY**

15 **Q. What is the purpose of your testimony in this proceeding?**

16 **A.** The purpose of my testimony is to review engineering aspects of the Petition filed
17 by Rockland Electric Company's ("RECO" or "the Company") “.

18 My testimony will review the distribution budget information included in the
19 Company's filing as well as the set of reliability upgrades the Company has
20 included in its rate case filing. I understand that the Company's Storm Hardening
21 Charge and projects associated with the Storm Hardening Charge will be part of a
22 separate docket outside of this rate case proceeding.

23

1 **Q. What are your findings?**

2

3 **A.** My findings are summarized as:

4

5 1. The Company's filing includes a number of budgetary increases that cannot, in
6 my opinion, be considered as just and reasonable costs that are appropriately
7 included in its base rates. They are based on blanket spending amounts that are 75
8 percent higher than the Company's average 2009-2013 historical spending. My
9 evaluation found that the Company's test year spending appears to be
10 substantially higher than the five year average for three specific blankets. The
11 three blankets are: 1) Underground Cable Rebuild where the test year spending is
12 493 percent higher than the five year average, 2) Electric Meter and Transformer
13 blanket where the test year spending is 458 percent higher than the five year
14 average, and 3) All Other Electric Blankets where the test year spending is 1,462
15 percent higher than the five year average.

16 2. The Company is seeking to recover costs associated with ongoing work
17 associated with installation of underground switches of the Harings Corner
18 substation. My evaluations found three reasons why this project should not be
19 included in the proposed rate increase. First, the Company has not provided a
20 consistent explanation of the overload conditions that it reports as a concern and,
21 as a result, it is not clear if the Company's proposed solution is appropriate.
22 Second, in its filing dated November 13, 2013; the Company estimated that the
23 cost associated with this project would be \$1.9 million. The Company now
24 estimates that the project will be \$2.3 million or a 21% increase without detailed
25 descriptions or explanations of the cost increase. Third, I note that the Company

1 has moved the expected in-service date from June 2014 to September 2014 in its
2 12+0 filing dated April 23, 2014 without a detailed explanation for the delay.
3 These factors lead me to a conclusion that the prudence of this project has not
4 been clearly established and that the final cost and in-service date remain
5 uncertain.

6 3. The Company has also included three projects that are currently in the planning
7 phase and are not expected to be completed until 2015 and 2016. These three
8 projects, 1) New Summit Avenue High Voltage Source Tap and Underground
9 Distribution Circuits, 2) Ringwood Mainline Undergrounding, and 3) Harings
10 Corner Substation Three-way Switch. The Company claims, in justification for
11 inclusion in the current base rates, that these projects may be completed within 15
12 months of the test year and that their costs have been identified. This criteria is
13 unsupportable as a valid basis to permit inclusion in the current base case
14 particularly when such inclusion is in direct contradiction with the long standing
15 regulatory expectation that recovery of costs of capitalized equipment be based on
16 equipment that is in service as of the test year. The Company should not include
17 these projects in the current rate case since they will not be used and useful within
18 the current test year. The reasonableness and prudence associated with these
19 projects should be the subject of a later rate case that the Company may file when
20 the projects are completed. In my review of these projects, however, I identify
21 below issues concerning the prudence of these projects should they go forward
22 and be included in a later rate case.

1 **III. SUMMARY OF BUDGETARY ISSUES**

2

3 **Q. Please summarize your concerns regarding the Company's Electric**

4 **Distribution Blanket Spending.**

5 **A.** The Company's budgeted electric distribution blankets for the test year differ

6 radically from their historical blanket budget amounts. Schedule CPS- 1¹ below

7 shows the Company's annual blanket budget amounts from 2005 through 2013

8 along with the test year budget and the 2009 through 2013 averages. The

9 Company's overall proposed test year electric blanket spending is 75 percent

10 higher (\$10.2 million versus \$5.8 million) than the Company's 2009-2013

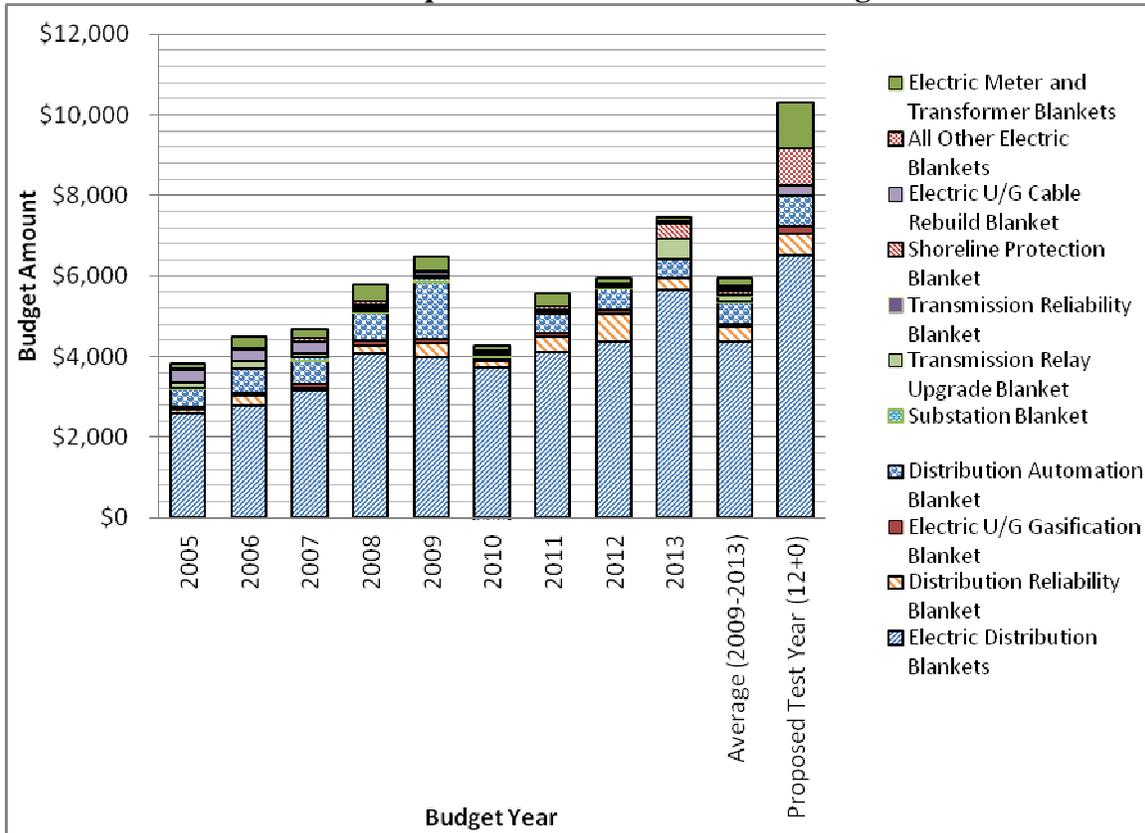
11 average.

12

¹ RCR-E-102

1
 2
 3

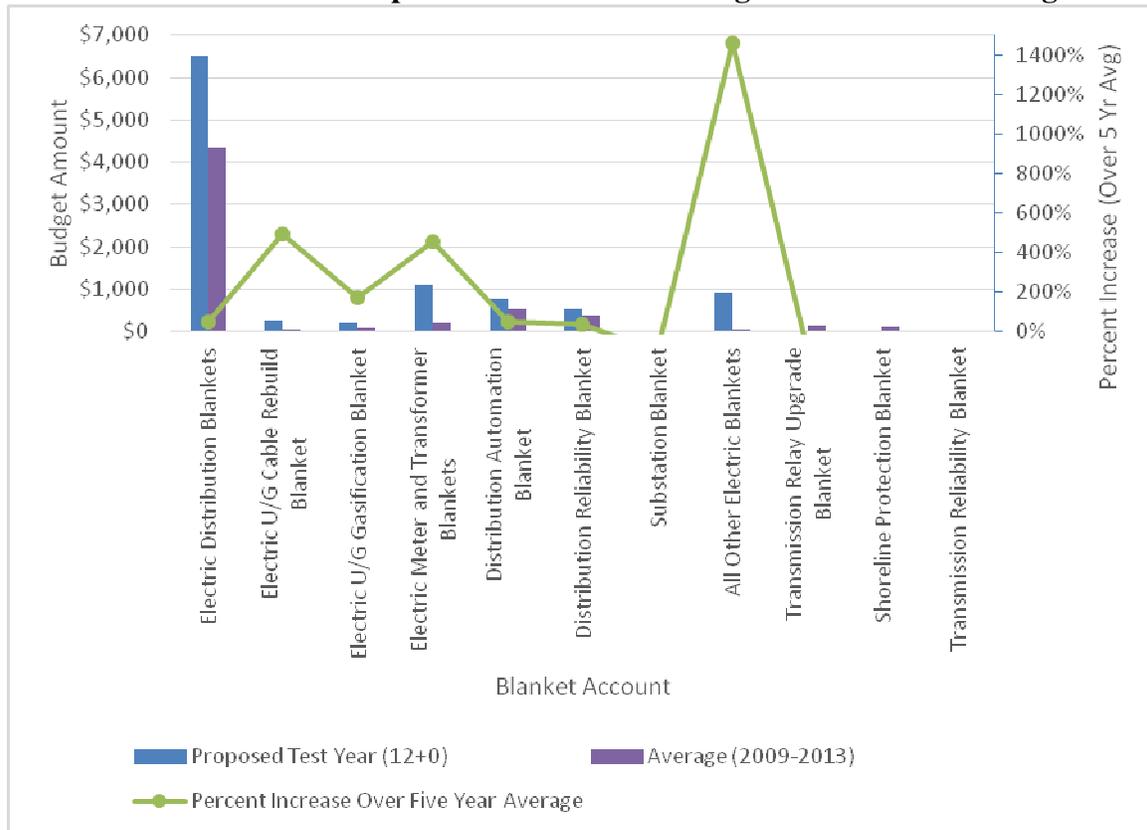
Schedule CPS- 1 Comparison of Electric Blanket Budget Amounts



4
 5
 6
 7
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 11
 12

A review of the proposed test year budgets as compared to the 5 year average budget values indicates that a number of budget items are disproportionately higher than the historical average. Schedule CPS- 2 below shows the 5 year average budget amount, the test year budget amount and the percent difference between these two values.

1 **Schedule CPS- 2 Comparison of Test Year Budget to Five Year Average**



2

3 The Company has not offered any explanation for these extraordinarily higher
 4 blanket budget amounts.

5

6 **Q. Please elaborate your concerns regarding the Underground Cable Rebuild**
 7 **Blanket.**

8 **A.** The Company’s proposed Electric U/G Cable Rebuild Blanket is \$261,000 which
 9 is 493% higher than the Company’s 5 year (2009-2013) average actual spending
 10 of approximately \$44,000. Witness Banker describes the Blanket as “work
 11 associated with the replacement of underground distribution cable systems that

1 have been subject to repeated failure.”² The Company has not provided a
2 justification as to why it has dramatically increased spending for Underground
3 replacement.

4 **Q. Please elaborate concerns regarding the Electric Meter and Transformer**
5 **Blanket.**

6 **A.** The Company’s proposed Electric Meter and Transformer Blanket is \$1,109,000
7 which is 458% higher than the Company’s 5 year (2009-2013) average actual
8 spending of approximately \$199,000. I do note that the Company disclosed as a
9 footnote that it had included an undisclosed amount for transformer purchases in
10 2013 in its Electric Distribution Blankets.³ Witness Banker describes the Blanket
11 as “the purchase of utility meters and transformers.”⁴ The Company has not
12 provided any detailed descriptions of the exact nature of the higher expenses that
13 would justify such a significant increase in expenditures particularly during the
14 test year period.

15 **Q. Please elaborate concerns regarding the All Other Electric Blanket.**

16 **A.** The Company’s proposed All Other Electric Blanket is \$922,000 which is 1,462%
17 higher than the Company’s 5 year (2009-2013) average actual spending of
18 \$59,000. Witness Banker describes the blanket as a compilation of smaller
19 blankets for the purchase of a variety of equipment⁵ The Company has not

² Banker, 2013. Page 11, lines 15-17.

³ RCR-E-102

⁴ Banker, 2013. Page 12, lines 3-4.

⁵ Banker, 2013. Page 12, lines 13-19.

1 provided any detailed descriptions of the exact nature of the components of the
2 blanket that would justify this level of increased spending.

3 **Q. What are your conclusions concerning the Company's Electric Distribution**
4 **Blanket?**

5 **A.** The blanket budgets proposed for the test year appear to be based on highly
6 inconsistent spending levels, given historical values, for a number of the budget
7 amounts. In total the budget calls for a 75% increase over the 2009 through 2013
8 average total budget expenditures which is driven by an average increase of 211%
9 for all categories of blanket budgets. The Company's filing fails to include any
10 descriptions that provide adequate support for this level of spending increase. I
11 recommend that the Company's electric blanket spending be based on the
12 historical average spending amounts rather than the elevated spikes shown in the
13 test year.

14
15 **IV. OUTSIDE TEST-YEAR PROJECTS**

16
17 **Q. Do you have concerns regarding the Company's identified projects that will**
18 **not be completed within the test year of this proceeding?**

19 **A.** Yes, the Company has identified four specific projects that will not be in service
20 within the Company's proposed test-year and therefore should be excluded from
21 this rate proceeding. These four projects are: 1) Harings Corner Substation New
22 Underground Circuit Exits, 2) New Summit Avenue High Voltage Source Tap
23 and Underground Distribution Circuits, 3) Ringwood Mainline Undergrounding,
24 and 4) Harings Corner Substation Three-way Switch. I address my concerns

1 regarding each of the four projects below. In addition, I note that Witness Crane's
2 testimony also discusses disallowing the Phase II projects (New Summit Avenue
3 High Voltage Source Tap and Underground Distribution Circuits, Ringwood
4 Mainline Undergrounding, and Harings Corner Substation Three-way Switch).

5 **Harings Corner Substation New Underground Circuit Exits**

6

7 **Q. Do you have concerns regarding the Company's proposed Harings Corner**
8 **Substation New Underground Circuit Exits?**

9 **A.** Yes, the Company proposes to install two new underground circuits and convert
10 an overhead circuit to underground to provide load relief under contingency
11 conditions.⁶ The Company indicated that loss of one of two circuits supplying the
12 Eastern 69 kV Loop will result in an overload of the remaining line.⁷

13 There are a number of inconsistencies with the justification of this project. Mr.
14 Banks states in the Company's filing that:

15 "The basis for this project is as follows. The Eastern 69kV loop from West Nyack, New York to
16 Harings Corner, New Jersey serves six substations. In the event of a contingency on either end of
17 the loop at peak time (Line 75 or Line 46), the remaining line exceeds its Short Time Emergency
18 ("STE") rating (i.e., 15 minute rating) based on 2013 load data. This contingency requires the
19 Company to shed 20 MW load to return the remaining line to below its Long Time Emergency
20 ("LTE") rating (i.e., 4 hours summer, 13 hours winter)."⁸

21

22 Mr. Banks later in his testimony describes this same contingency event but comes
23 to a different conclusion stating that:

⁶ Banker, pages 4. Lines 13-22.

⁷ Banker, page 4, lines 14 through 17.

⁸ Banker, Page 4, lines 11 through 18

1 “The Eastern 69kV loop from West Nyack, New York to Harings Corner, New Jersey serves six
2 substations. In the event of a contingency on either end of the loop at peak time (Line 75 or Line
3 46), the remaining line exceeds its STE rating based on 2013 load data. This contingency requires
4 the Company to shed load to about 40 MW (about 8,000 customers) to return the remaining line to
5 below its normal rating.”⁹

6 When asked to confirm these statements Mr. Banker offered an explanation that
7 provides additional inconsistencies:

8 “In an event of a contingency on this 69kV loop with either Line 46 or Line 75 out of service, the
9 remaining line in service would experience an actual load of 155.9 MW under 2013 load
10 conditions as per the table in Response RCR-E-81. The LTE ratings of these lines are 135 MW.
11 Under these conditions, the line would be approximately 20 MW over its LTE rating and 20 MW
12 would have to be shed.”¹⁰

13
14 And then states in another response:

15 “In an event of a contingency on this 69kV loop with either Line 46 or Line 75 out of service, the
16 remaining line in service would experience an actual load of 155.9 MW under 2013 load
17 conditions, as per the table provided in the Company’s response to RCR-E-81. The normal ratings
18 of these lines are 118 MW. Under these conditions, the line would be approximately 40 MW over
19 its normal rating and 40 MW would have to be shed.”¹¹

20
21 Consequently, we are uncertain if the outage event results in a 40 MW overload
22 or a 20 MW overload. We are also uncertain if the line loading must be returned
23 to below normal rating or below LTE rating.

24 In addition, the Company justified this project by examining the feasibility of
25 building a new substation in Tappan, NY or Montvale, NJ.¹² My concern
26 regarding this project is that the Company has not established a clear case
27 concerning the need for the upgrade and, in my opinion, has not provided

⁹ Banker, page 8, lines 21 through 23, page 9, lines 1 through 3

¹⁰ RCR-E2-82

¹¹ RCR-E2-84

¹² RCR-E-83

1 adequate justification for the proposed solution. For example there was no
2 discussion of an obvious alternative of reconductoring the two lines to
3 accommodate the higher loading levels. Understanding if the issue involves a 20
4 MW overload or a 40 MW overload would play an important role in deciding if
5 the Company's proposed solution is reasonable and appropriate.

6 **Q. Do you have concerns about the timing and budget associated with this**
7 **proposed project?**

8 **A.** Yes, in the Company's Petition filed in November 27, 2013, Witness Banker
9 anticipated that the project would be completed by June 2014 and estimated to
10 cost \$1.9 million.¹³ In the Company's 12+0 updated filed on April 23, 2014, the
11 Company indicated that the project would not be in-service until September
12 2014.¹⁴ Also, the Company has indicated that the estimated project cost has
13 increased to \$2.3 million from \$1.9 million based on revised project estimates.¹⁵ I
14 note that the Company's \$1.9 million project estimate included a 10%
15 contingency.¹⁶ I have concerns that the associated cost for this project has
16 increased by approximately 21% and has been delayed by at least three months
17 with no explanation.

18

19

¹³ Banker, page 5, lines 12 and 13.

¹⁴ 12+0 Update, Exhibit P-3, Schedule 12.

¹⁵ RCR-E-88.

¹⁶ RCR-E-87.

1 **Q. What is your recommendation with regards to this project?**

2 **A.** I recommend that this project should not be included in the Company's proposed
3 distribution rate increase for the following three reasons. One, the Company has
4 provided inconsistent justification concerning the need of this project since the
5 described overload condition is unclear and thus the Company's proposed
6 solution may not be appropriate. Two, the Company has not provided sufficient
7 explanation as to why the projected costs have increased by over 20 percent.
8 Third, the Company has failed to explain why the project is now projected to be
9 delayed by three months.

10

11 **New Summit Avenue High Voltage Source Tap and Underground Distribution**
12 **Circuits**

13

14 **Q. Do you have concerns about the timing associated with this proposed**
15 **project?**

16 **A.** Yes, in the Company's Petition filed in November 27, 2013, Witness Banker
17 anticipated that New Summit Avenue High Voltage Source Tap and Underground
18 Distribution Circuits will not be in-service until December 2015, well after the
19 test year.¹⁷ The Company notes that construction is scheduled to commence in the
20 summer of 2014.¹⁸ The Company's 12+0 Update of April 23, 2014 does not
21 include this project in the updated Exhibit P-3 Schedule 12.

¹⁷ Banker, page 7, line 5.

¹⁸ Banker, page , line 9.

1 In addition to the issues concerning the timing of this proposed project with
2 respect to inclusion in the current base rate proceedings there are concerns over
3 the proposed station costs. The Company claims that the station will be built to
4 138 kV standards but will be operated at 69 kV. This decision can have some
5 significant cost consequences. Equipment specified to operate at 138 kV is
6 inherently more expensive and the station design itself must be augmented to
7 provide sufficient phase to phase and phase to ground clearances necessary for
8 operation at 138 kV. The only justification offered for building this station to 138
9 kV specifications was that there was some expectation that in 25 years it may
10 need to operate at that higher voltage level.¹⁹ There was no assessment concerning
11 the cost effectiveness of such an expense offered in this response. If the additional
12 expense associated with designing the station for 138 kV is to be carried for 25
13 years it is very likely that this cost will exceed the cost of converting the station to
14 138 kV operation when that need arises. Additionally, there is no clear evidence
15 that such a need even exists but rather only a supposition concerning decisions
16 that will be made 25 years from today. Consequently, I believe that the project is
17 ill timed for inclusion in the current base rates and lacks sufficient justification to
18 support the cost effectiveness of the Company's proposed station design.

19 **Q. What is your recommendation with regards to this project?**

20 **A.** I recommend that this project not be included in the Company's proposed
21 distribution rate increase for the reasons cited above.

¹⁹ RCR-E2-91

1 **Ringwood Mainline Undergrounding**

2
3 **Q. Do you have concerns about the timing associated with this proposed**
4 **project?**

5 **A.** Yes, in the Company's Petition filed in November 27, 2013, Witness Banker
6 anticipated that the Ringwood Mainline Undergrounding will not be in-service
7 until December 2015, after the test year.²⁰ The Company notes that construction is
8 scheduled to commence in the summer of 2014.²¹ The Company's 12+0 Update
9 of April 23, 2014 does not include this project in the updated Exhibit P-3
10 Schedule 12.

11 **Q. Do you have concerns about this proposed project?**

12 **A.** Yes, the Company notes that the substation serves approximately 3,056 customers
13 on circuits 78-1-13 and 78-2-13 and that Circuit 78-1-13 has been historically one
14 of the Company's worst performing circuits as shown in a table provided in
15 response to RCR-E-95 that shows data from 2009.²² I agree with the Company in
16 this regard, but I note that when I examined Reliability Performance reports
17 provided by the Company to the BPU dating back to 2003, I found that the
18 Company continuously mentions the poor performance of Circuit 78-1-13.²³

19 **Q. Did the Company note the cause of interruptions associated with Circuit 78-**
20 **1-13?**

²⁰ Banker, page 8, line 18.

²¹ Banker, page , line 9.

²² RCR-E-95

²³ RCR-E-6

1 **A.** Yes, the Company noted that tree damage was generally the largest contributor to
2 interruptions associated with this circuit in a review of Annual Reliability reports.

3 **Q.** **Did the Company undertake more frequent vegetation management of the**
4 **circuit than the Company's current four year cycle?**

5 **A.** No, in the Company's 2010 Annual Reliability Report, the Company considered
6 accelerated trimming cycle for the circuit.²⁴ No mention of accelerated trimming
7 cycle is mentioned in the 2011 and 2012 Annual Reliability Reports.

8 **Q.** **In this Rate Case does the Company propose enhanced vegetation**
9 **management for the Ringwood Substation?**

10 **A.** Yes, the Company's storm hardening panel proposed an enhanced vegetation
11 management pilot project that focused on the Ringwood substation, but that
12 component is no longer part of this rate case.²⁵

13 **Q.** **Would enhanced vegetation management benefit reliability concerns**
14 **associated with the Ringwood Substation?**

15 **A.** As I noted earlier, the Company identified the largest contributor of interruptions
16 for Circuit 78-1-13 has been tree contact. Thus, a focused and implemented
17 vegetation management program on the circuits of the Ringwood substation
18 should benefit customers on the circuit.

19

²⁴ 2010 Annual Reliability Report. Page 18.

²⁵ Storm Hardening Panel, page 14. Lines 16-20.

1 **Q. Do you believe that the proposed upgrades are an appropriate solution to the**
2 **problems identified by the Company?**

3 **A.** No I do not. In addition to the failure by the Company to fully address the tree
4 related outages for these circuits, the primary justification for the project as
5 described in Mr. Banker's testimony, is based on a double circuit tower fault²⁶.
6 This issue arises when two circuits are strung on the same set of structures such
7 that one circuit is on one side of the structure and the other circuit is on the other
8 side of the structure. A common issue with this design is the loss of both circuits
9 due to a single lightning stroke that interrupts both circuits. The solution proposed
10 by the Company is to add a third underground circuit to provide backup capacity
11 for such an event. This solution is clearly a very costly alternative. As described
12 by Mr. Banker the problem area involves less than 2 miles of double circuit
13 towers and typically there are a number of far less costly alternatives that could
14 potentially solve this type of problem. For example, it is often the case that a new
15 set of structures can be installed within the existing right-of-way that would allow
16 for separation of the two circuits. Any modification that places the circuits on
17 separate structures would completely avoid the problem. There are also other
18 possible mitigating measures such as differential insulation. Insulating the lines to
19 different voltage levels often prevents lightning strokes from interrupting both
20 lines at the same time. In addition to concerns with respect to the timing of this

²⁶ Mr. Banker, page 7, lines 17 through 19

1 project, I do not believe that the Company has appropriately addressed the
2 identified concerns in a cost effective manner.

3

4 **Q. What is your recommendation with regards to this project?**

5 **A.** I recommend that this project not be included in the Company's proposed
6 distribution rate increase for the reasons cited above.

7 **Harings Corner Substation Three Way Switch**

8

9 **Q. Do you have concerns about the timing associated with this proposed**
10 **project?**

11 **A.** Yes, in the Company's Petition filed in November 27, 2013, Witness Banker
12 anticipated that the Harings Corner Three-way Switch will not be in-service until
13 December 2015, more than a year after the test year.²⁷ The Company notes that
14 the project is currently in the design phase.²⁸ The Company's 12+0 Update of
15 April 23, 2014 does not include this project in the updated Exhibit P-3 Schedule
16 12.

17

18 **Q. What is your recommendation with regards to this project?**

19 **A.** I recommend that this project not be included in the Company's proposed
20 distribution rate increase for the reasons cited above.

²⁷ Banker, page 9, line 16.

²⁸ Banker, page 9, line 13.

1 **VIII. SUMMARY**

2 **Q. Please summarize your conclusions and recommendations regarding the**
3 **Company's Petition.**

4 **A.** The BPU should eliminate or reduce the following items from the Company's
5 petition to increase distribution rates.

6 1. The Company has established a test year electric blanket spending that is 75
7 percent higher than its average spending for the last five years. I believe that a
8 more detailed explanation and justification of each expenditure included in the
9 test year expenses associated with both capital projects and blanket budgets be
10 provided by the Company and that the blanket budget amounts be adjusted to be
11 consistent with the historical budget spending amounts.

12 2. The Company is seeking to recover costs associated with ongoing work
13 associated with installation of underground switches of the Harings Corner
14 substation. In its filing dated November 13, 2013; the Company estimated that the
15 cost associated with this project would be \$1.9 million. The Company now
16 estimates that the project will now be \$2.3 million or 21% increase. Furthermore I
17 note that the Company has moved the expected in-service date from June 2014 to
18 September 2014 in its 12+0 filing dated April 23, 2014. The Company has not
19 provided sufficient justification as to why this project is a cost effective solution
20 to the identified issues, has not provided an update to the expected project
21 completion delay and has not provided sufficient justification for its inclusion in
22 the current rate case given its proposed in-service date.

1 3. I recommend that the BPU not allow the inclusion of the three proposed capital
2 projects in the Company's current base rates. These projects are currently in the
3 planning phase and are not expected to be in-service until 2015 and 2016. The
4 three projects are; 1) New Summit Avenue High Voltage Source Tap and
5 Underground Distribution Circuits; 2) Ringwood Mainline Undergrounding and;
6 3) Harings Corner Substation Three-way Switch. The Company should not be
7 permitted to include these projects in the current rate case since they will not be
8 used and useful within the current test year. The reasonableness and prudence
9 associated with these projects should be the subject of a later rate case that the
10 Company may file when the projects are completed.

11 4. The Ringwood Mainline Underground project is an attempt by the Company to
12 find a solution to a long-standing issue regarding the reliability of circuit 78-1-13
13 due to tree contact. The Company has proposed an enhanced vegetation
14 management pilot project to address the substation's circuits but is proposing to
15 undertake an undergrounding project that is three times more expensive than the
16 Company's vegetation management budget for 2014 while failing to consider less
17 costly alternative solutions. I recommend that the Company develop a more
18 focused program to address the tree related outage issues and assess alternative
19 solutions to address the double circuit tower outage concern.

20 **Q. Does this conclude your testimony?**

21 **A.** Yes. However, I reserve the right to supplement my testimony subject to further
22 updates to discovery and information provided by Rockland Electric Company.

Schedule CPS- 3 Resume for Charles P. Salamone P.E.



Charles P. Salamone P.E.

Profession: Power systems analysis and assessment, with a special emphasis on transmission planning, performance and design

Nationality: U.S. Citizen

Years of Experience: 40 years

Education B.S.E.E, Power System Engineering, 1973
Gannon University, Erie, PA

Position: Owner/Manager, Cape Power Systems Consulting

Web/Email: www.CapePowerSystems.com csalamone@capepowersystems.com

Contact Number: 774-271-0383

Summary: Mr. Salamone provides professional services based on 40 years of electric utility industry experience in the areas of Transmission Planning, Substation Planning, Distribution Planning, ISO-New England Planning Procedures, New England Power Pool Procedures, Congestion Management, Generator Interconnections, Planning/Capital Budget Management, Meter Engineering, and State (Mass DPU and New Jersey Rate Council) and Federal (FERC) Regulatory Agency Filing Development and Expert Witness Testimony

Experience:

2005- Pres. Cape Power Systems Consulting

Established a power system design, analysis, planning and assessment consulting company to work directly with diverse power system stakeholders.

- Worked with a number of clients for the development of analysis, reports and presentations in support of regulatory and technical review/approval process for transmission and distribution projects
- Provided technical assistance for transmission planning activities for an Independent System Operator including support for major transmission system expansion programs and development of a 10 year transmission plan
- Worked with a large Massachusetts Utility as an expert witness in support of State regulatory reviews for the siting of a major transmission system upgrade plan



Charles P. Salamone P.E.

- Worked with state regulatory agencies in support of electric utility rate case proceedings including expert witness testimony and assessment of electric utility performance
- Worked with multiple state regulatory agencies in support of review of electric utility smart grid initiatives including review of the technical performance, system benefits and viability of proposed electric utility programs
- Developed and conducted a comprehensive training program for implementation of an Energy Management System (EMS) based transmission system security assessment application for a large Massachusetts utility
- Worked with clients to conduct load flow assessment of transmission system performance for feasibility and reliability performance studies across New England and New York

1979-2005 NSTAR (Previously Boston Edison and Commonwealth Electric)

2000-2005 *Director System Planning*

NSTAR (Previously Boston Edison and Commonwealth Electric) Boston, MA

- Responsible for long term planning of Company transmission, substation and distribution systems
- Successfully managed the studies, design, internal and external review and regulatory approval for a \$250M 345 kV underground transmission expansion project serving the greater Boston area
- Managed numerous generator interconnection studies, design and approvals
- Successfully managed studies, design and approval for congestion mitigation plans and expansion project
- Oversaw transmission and distribution planning efforts to establish a comprehensive 10 year \$300 million system expansion plan
- Served as Company representative on NEPOOL Reliability Committee and the New England Transmission Expansion Advisory Committee
- Served as Company expert witness for system planning related regulatory proceedings at both the state and federal levels.
- Supervised a staff of 10 senior engineers

1989-1999 *Manager, System Planning and Meter Services*

Commonwealth Electric Company, Wareham, MA

- Develop risk based prioritized \$10 million construction budget procedures
- Supervise a staff of 6 professional engineers and 4 analysts
- Served as chair of the NEPOOL Regional Transmission Planning Committee (currently the NEPOOL Reliability Committee)
- Process billing determinant and interval data for all major system customers
- Lead implementation of first MV90 meter data processing system
- Develop annual performance analysis reports for all transmission and major distribution systems



Charles P. Salamone P.E.

- Manage multiple FERC tariff based transmission customer and generation developer system impact studies
- Served as expert Company witness in State and FERC regulatory proceedings
- Implemented a risk index for prioritization of all transmission and major distribution construction projects
- Implemented automated electronic processing of major customer billing data, which significantly reduced time needed to generate bills
- Served as lead member on information technology company merger team
- Implemented process and equipment to perform all tie line, generator and wholesale customer meter testing
- Served as chair of the NEPOOL Planning Process Subcommittee, which established numerous NEPOOL policies for transmission/generator owners
- Served as Vice-Chair of the NEPOOL Reliability Committee

1984-1989 ***Meter Engineer***

Commonwealth Electric Company, Plymouth, MA

- Designed and supervised installation of 15 generator meter data recorders
- Developed customer load plotting and analysis software
- Developed meter equipment order data processing system for four remote offices
- Implemented PC control of meter test boards, which significantly reduced processing and record keeping time
- Managed programming of all electronic meter registers to insure accurate data registration

1979-1984 ***Computer Application Engineer***

Commonwealth Electric Company, Wareham, MA

- Implemented numerous technical and analytical software applications for engineering analysis
- Served as member of decision team for implementation of a new SCADA system

1978-1979 ***San Diego Gas & Electric, Planning Engineer***

San Diego Gas & Electric Company, San Diego, CA

- Performed extensive stability analysis for a new 230 kV transmission interconnection with Mexico
- Performed transmission design and performance analysis for a new 250 mile 500 kV line from San Diego to Arizona

1973-1978 ***New England Gas & Electric Association, Planning Engineer***

New England Gas & Electric Association, Cambridge, MA

- Performed extensive stability analysis for a new 560 MW generating plant on Cape Cod
- Developed transmission plan for a new 345 kV transmission line on Cape Cod
- Developed plans for design and siting of new 115 / 23 kV substations on Cape Cod